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SOCIETY OF MECHANICAL ENGINEERS

September, 1919

Society Affairs

A Record of the Current Activities of the Society, Its Members,
Council, Committees, Sections and Student Branches ;
and Affairs of Interest to the Membership



THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS

29 West 39th Street, New York

THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS

ABRIDGED LIST OF OFFICERS AND COMMITTEES

OFFICERS AND COUNCIL, 1919

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Past-Presidents

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JOHN A. BRASHEAR
D. S. JACOBUS
IRA N. HOLLIS
CHARLES T. MAIN

Vice-Presidents

Terms expire December, 1919

JOHN HUNTER
SPENCER MILLER
MAX TOLTZ

Terms expire December, 1920

FRED R. LOW
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Terms expire December, 1919

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Terms expire December, 1921

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Treasurer

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CALVIN W. RICE

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Chairmen of Standing Committees of Administration

COMMITTEES, ETC.

STANDING COMMITTEES OF ADMINISTRATION

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FINANCE, W. E. Symons
MEETINGS AND PROGRAM, D. S. Kimball
PUBLICATIONS AND PAPERS, George A. Orrok
MEMBERSHIP, S. D. Collett
SECTIONS, D. Robert Yarnall
CONSTITUTION AND BY-LAWS, I. H. Woolson, Ac.Ch.

STANDING COMMITTEES

Chairmen

HOUSE, Orrie P. Cummings
LIBRARY, ———
PUBLIC RELATIONS, F. H. Newell
RESEARCH, Arthur M. Greene, Jr.
STANDARDIZATION, Henry Hess

SOCIETY REPRESENTATION

AMERICAN ASSOCIATION FOR ADVANCEMENT OF
SCIENCE
AMERICAN ENGINEERING STANDARDS COMMITTEE
CLASSIFICATION OF TECHNICAL LITERATURE
COST OF ELECTRIC POWER
ENGINEERING COUNCIL
ENGINEERING FOUNDATION BOARD
EXPERT TESTIMONY COMMITTEE

INTERNATIONAL CORRESPONDING COMMITTEE ON SCREW THREADS

INTERNATIONAL STANDARD FOR PIPE THREADS
JOHN FRITZ MEDAL BOARD OF AWARD
JOSEPH A. HOLMES MEMORIAL BOARD
NATIONAL INDUSTRIAL CONFERENCE BOARD
NATIONAL RESEARCH COUNCIL
NAVAL CONSULTING BOARD OF THE UNITED STATES
STANDARDIZATION OF PIPE AND PIPE FITTINGS
FOR FIRE PROTECTION
STANDARDS FOR GRAPHIC PRESENTATION
UNITED ENGINEERING SOCIETY, BOARD OF
TRUSTEES
UNITED ENGINEERING SOCIETY, LIBRARY BOARD
UNITED STATES BUREAU OF MINES, ADVISORY
COMMITTEE
WESTERN SOCIETY OF ENGINEERS, WASHINGTON
AWARD

SPECIAL COMMITTEES

Chairmen

AIMS AND ORGANIZATION, L. C. Marburg
INCREASE OF MEMBERSHIP, S. D. Collett
INDUSTRIAL RELATIONS, A. W. Burchard
MEMORIAL TO DR. HUTTON, Jesse M. Smith
REHABILITATION OF BLIND, C. H. Benjamin
RELATIONS WITH COLLEGES, I. N. Hollis
WAR INDUSTRIES READJUSTMENT, G. K. Parsons
CODE OF ETHICS, ———
CLASSIFICATION OF TECHNICAL LITERATURE, ———
WAR PARTICIPATION AND MEMBERS MEMORIAL,
F. J. Miller

COMMITTEES ON ENGINEERING SUBJECTS

Chairmen

BOILER CODE, John A. Stevens
POWER TEST CODE, Fred R. Low
FEED WATER STANDARDIZATION, Geo. F. Gebhardt
PROTECTION OF INDUSTRIAL WORKERS, John W.
Upp
MACHINE TOOL STANDARDIZATION, A. DeLeeuw
REVISION OF BRIGGS STANDARD, E. M. Herr
STANDARDIZATION OF SHAFTING, C. M. Chapman
STEEL ROLLER CHAINS, C. H. Benjamin
TECHNICAL NOMENCLATURE, W. D. Ennis
WEIGHTS AND MEASURES, L. D. Burlingame

SPECIAL TECHNICAL (SCREW THREAD COMMITTEES)

Chairmen

SCREW THREADS AND THREADED PARTS, E. M. Herr
FLANGES AND PIPE FITTINGS, A. R. Baylis
MACHINE SCREW NUTS, E. H. Ehrman
TOLERANCES IN SCREW THREAD FITS, L. D. Burlingame

ANNUAL COMMITTEES

REGULAR NOMINATING COMMITTEE, Hinchman
TELLERS OF ELECTION, J. H. Lawrence

SOCIETY AFFAIRS

Affairs of Interest to the Membership — Secretary's Letter — Council and Executive Committee — James Watt Centenary — Employment Bulletin — Candidates for Membership

The Secretary's Letter

IN another column there will be found an account of some of my relations with Mr. Carnegie in connection with his gift for the buildings for the Engineering Societies and the Engineers' Club; but there are two further incidents which I have reserved for inclusion in my letter.

When Mr. Carnegie had assented to the gift, originally \$1,000,000, he went to his writing desk and taking one of the engraved letterheads commenced to write out the confirmation. After a few lines his pen caught the paper and made a blot. Instead of taking a new sheet, as most people would do, he carefully folded the spoiled sheet, tore it in two and wrote out his gift of one million dollars on the lower half. This illustrates his ability to save and conserve, which, consistently followed, was undoubtedly one of the secrets of his success.

The following incident is creditable to the engineers in question and should serve as an encouragement to all who try and then fail.

After Mr. Carnegie's gift of \$7,000 for abstracting and cataloging the Sir Latimer Clark Collection, which had been presented to the Institute by Dr. Schuyler Skaats Wheeler, Mem.Am.Soc.M.E., the Institute sought to give a dinner in honor of Mr. Carnegie, but he declined. Mr. T. C. Martin, past-president of the Institute, was the spokesman and persisted in his invitation and, if I remember correctly, was refused seven times. Finally Mr. Carnegie yielded, with the result stated elsewhere in the account of his career.

CALVIN W. RICE,
Secretary.

Council and Executive Committee

THE first meeting of the Council for the new season 1919-20 will be held on Friday, September 19, in New York City.

Since the Council adjourned for its summer recess so many matters of first importance have come up that the President has called two meetings of the Executive Committee. The minutes of these meetings are abstracted below. According to the Constitution the acts of the Executive Committee are later reported to the Council.

EXECUTIVE COMMITTEE MEETINGS

The first meeting was held in the rooms of the Society on Monday, July 14. There were present: *President* Mortimer E. Cooley, presiding; Ira N. Hollis, John Hunter, D. S. Jacobus, Charles T. Main, Henry B. Sargent, and by invitation Major Fred J. Miller, representing the Publication Committee, and Prof. Comfort A. Adams, Chairman of the American Engineering Standards Committee, and Calvin W. Rice, *Secretary*.

Aims and Organization Committee. The Chairman of this Committee was requested to present its revised report to the Council not later than its November meeting, so that the report could be printed and distributed to the members previous to the Annual Meeting.

Special Committee on Awards. Papers received by the Society for competition for the Junior and Student prizes for 1919 were referred to the Special Committee on Awards, of which Past-President Hollis is Chairman.

Local Sections Committee. A formal petition from the members of the Society in the territory adjacent to Houston, Tex., for a Local Section including all Texas south of the line running east and west through Fort Worth, was approved, and A. B. Steen, Chairman, O. N. Edgar, Secretary, H. C. Smith, H. Hildenbrand,

and A. T. Vick were recorded as the first Executive Committee of the Section.

The second meeting of the Committee was held on July 24, also in the rooms of the Society. There were present: *President* M. E. Cooley, presiding; Ira N. Hollis, D. S. Jacobus, Henry B. Sargent, John Hunter, and Calvin W. Rice, *Secretary*; and by invitation George J. Foran and Charles Whiting Baker, representatives of the Society on Engineering Council with Messrs. Cooley, Hunter and Jacobus.

Death of Past-President Wellman. Notice of the death of Past-President S. T. Wellman was received with regret. An account of the life and attainments of Mr. Wellman and his connection with the Society is published in the August issue of MECHANICAL ENGINEERING.

War Industries Readjustment Committee. This Committee presented an excellent report of the work performed by it in designing a method for appraising the machine tools owned throughout the United States by the Government, which was received with appreciation.

House Committee. This Committee reported alterations and renovations in the rooms of the Society, which are now proceeding.

James Watt Centenary. The President reported the appointment of Mr. W. E. Symons and Mr. R. Sanford Riley as Honorary Vice-Presidents to represent the Society at the James Watt Centenary Commemoration to be held in Birmingham, England, September 16 to 18.

Special Committees. It was voted to recommend to the Council that provision be made for the discharging of special committees at the expiration of each President and statutory Council, and for the incoming President and Council to appoint any special committees required.

CALVIN W. RICE,
Secretary.

James Watt Centenary

Following up the preliminary notice concerning the James Watt Centenary made on page 690 of the August issue, the announcement is now made that the commemoration will be held in Birmingham, England, on September 16 to 18. Mr. W. E. Symons and Mr. R. Sanford Riley will both represent the Society at the exercises, which are expected to provide a gathering of engineers such as the world has never before seen. On the second day visits will be made to two Watt engines near Birmingham, and to some of the shop buildings erected by Boulton and Watt which still remain.

It is intended that an International Permanent Memorial should be founded in Birmingham, where James Watt spent the greater part of his life and built all his engines, so that the city should be to engineers what Stratford-on-Avon is to lovers of Shakespeare.

The International Memorial is proposed to take the following form:

- 1 Endowment of a professorship of engineering to be known as the James Watt Chair at the University of Birmingham for the promotion of research in the fundamental principles underlying the production of power, and the study of the conservation of the natural sources of energy.

- 2 To erect a James Watt Memorial Building to serve as a museum, meeting place and library, and a center from which engineers may cooperate in spreading scientific knowledge.

- 3 To publish a memorial volume.

An illustrated booklet containing a eulogy of James Watt by Professor Burstall is being distributed directly from the James Watt Centenary Committee to our membership.

EMPLOYMENT BULLETIN

THE SECRETARY considers it a special obligation and pleasant duty to make the office of the Society the medium for assisting members to secure positions by putting them in touch with special opportunities for which their training and experience qualify them, and for helping any one desiring engineering services. The applications and positions listed below combine the services of the Society and of the Engineering Societies Employment Bureau, Room 1605, Engineering Societies Building.

POSITIONS AVAILABLE

Stamps should be inclosed for transmittal of applications to advertisers; non-members must accompany applications with a letter of reference or introduction from a member; such reference letter will be filed with the Society records.

INSTRUCTOR IN MECHANICAL ENGINEERING; technical graduate with both teaching and practical experience. Salary \$1500 to \$2000 per year. Location District of Columbia. R-919.

GENERAL EFFICIENCY ENGINEER; experience in connection with electric light, water-works and ice-manufacturing plants. Must understand plant operation of public utility properties and have had experience with absorption ice machines; must have personality and tact to deal with the public. Traveling position. R-1125.

REFRIGERATING ENGINEER; young and energetic engineer, experienced both theoretically and practically in ice-making and refrigerating machinery, for position in Estimating and Sales Dept. of large manufacturing company. Location Wisconsin. R-1128.

POWER-PLANT SUPERINTENDENT; extensive experience in power-plant work. Technical graduate preferred. Must have had experience in running tests and operating plants. Duties will be to have entire charge of engine and boiler-room work, and also of electrical work throughout plant. Location New Jersey. R-1131.

CHIEF ENGINEER; technical education and some experience in power-plant work. Must be in vigorous health, with good habits and a willing worker. Should have, or should be able to obtain a first-class engineer's license in Mass. Duties will be to have charge of boilers, engines and electrical generation in manufacturing plant. Location Mass. Salary \$35 to \$40 per week. R-1132.

REFRIGERATING ENGINEER; actual experience in operation of refrigerating machinery and knowledge of power-plant construction and engineering. Young man about 30 years of age desired. Location New York City, with some traveling. R-1133.

DRAFTSMAN; familiarity with Diesel engine design. Location New York State. Openings for two or three men. R-1134.

CHIEF DRAFTSMAN; ability to develop drafting-room personnel, to systematize the arrangement and filing of necessary engineering data, and to cooperate in practical manner with shop. Location Illinois. R-1135.

INSTRUCTOR IN CIVIL ENGINEERING; Lafayette College, Easton, Pa. Work chiefly in surveying and mechanics. Salary for nine months \$1200 to \$1400, depending upon qualifications. Apply by letter enclosing an outline of experience and giving references. R-1136.

INSTRUCTOR IN MACHINE SHOP; technical graduate with some practical shop experience. Salary \$1800 per year. Location Michigan. R-1138.

CHIEF ENGINEER AND HEAD DRAFTSMAN; experience in this line of work for position with large heating and piping contractors' company. Location New York. R-1139.

SALES REPRESENTATIVE; Western man; preferably one from vicinity of Chicago with acquaintances among railroad men. Experience in railroad line necessary, but not necessary that applicant shall have had previous sales experience. Must have personality and initiative. Position is with manufacturing company making locomotive injectors, etc., Salary \$200 to \$250 per month, plus expenses.

Location Illinois. Apply by letter in own handwriting. R-1140.

MECHANICAL ENGINEER; considerable experience in power and industrial plants, central station and municipal work. Rather mature man desired. Duties will consist of office and road work. Road work will be getting in touch with big manufacturers, and will involve no selling. Position is editorial in its nature. Location New York City. R-1142.

PLANT ENGINEER; single man with experience as plant engineer. The position is with a nitrate plant that employs 2,000 men and has a very large electric power plant, boiler plant, leaching plant, conveyors and elevators, crushers, machine shops, railroads and water system. Applicant would have charge of the maintenance and new developments, hence he must be a man of some experience, but not necessarily technical graduate. Man with knowledge of Spanish will be given preference. Salary \$200 to \$250 per month, with board and lodging. Location Chile, S. A. R-1145.

MACHINE DESIGNER; high-class knowledge of mechanical engineering, with special experience in ammonia refrigeration. Duties consist in taking the general outline of refrigeration system and in working up the design and appearance of machines, and also the practicability of whole proposition. Location Oklahoma. R-1148.

MASTER MECHANIC; some technical training and wide experience in repairs and maintenance of boilers, engines, pumps, electrical equipment, millwright work, handling equipment and all such work as is ordinarily found in large industrial plant. Only thoroughly competent man, experienced and tactful in handling labor, need apply. Location vicinity of New York City. R-1150.

ENGINEERING DRAFTSMAN; young engineer, preferably technical graduate with some industrial experience. Work will cover designing of machinery, buildings, etc., and laying out of transmission lines, equipment, and other work in connection with manufacturing plant. Location Massachusetts. R-1151.

MACHINE-TOOL SALESMAN; experienced in this line of work. Location New York City. R-1152.

TRANSITMAN; experience in this line of work. Location Quezaltenango, Guatemala. R-1153.

INSTRUCTOR IN MECHANICS; young graduate engineer. Man with some teaching experience desired. Duties consist of teaching mechanics and assisting in the laboratory for testing materials. Location Pennsylvania. R-1155.

IRON-FOUNDRY SUPERINTENDENT; experience in this line of work. R-1163.

ENGINEER EXECUTIVE; must have had outside building experience in connection with mill work, complete power plants, industrial plants, etc. Position is an office one in charge of construction department of large contracting company. Location New York City. R-1166.

DRAFTSMAN AND DESIGNER; experience in power-plant work, both electrical and steam; also in sanitation work. Delaware man preferred. Salary \$40 to \$50 per week. Location Delaware. R-1171.

MACHINE DESIGNER; experienced on medium-sized automatic machinery for metal cutting. Salary \$200 per month. Location New York City. R-1176.

FOREMAN FOR HEAVY-TOOL DEPARTMENT; experience in heavy machine tool work. Posi-

tion is with company manufacturing gas engines exclusively, ranging from 20 to 75 h.p. The department over which this man will preside machines all the heavier parts of the engines. General practical man about 40 years old, whose experience has been mostly in machinery, desired. Middle-west man preferred. Location Ohio. R-1182.

GAS AND OIL-ENGINE DESIGNER; must be A-1 designer experienced in internal-combustion engines. Position is with manufacturing company producing such engines on large scale. Location Middle West. R-1184.

CHIEF MACHINE-TOOL DESIGNER; must have executive ability and wide experience in design, manufacture, and use of machine tools. Only high-grade men wanted. A company manufacturing large machine tools, now making plans for extensive additions to line, desires to fill this position. Location New York City. R-1185.

EVAPORATION ENGINEER; experience with double effect vacuum pans. Must be fully capable. Position is with large salt-manufacturing company. Salary \$2000 per year with bonus. Location Canada. R-1186.

INSTRUCTOR IN MECHANICAL ENGINEERING; must be technical graduate with some experience either in teaching or practice. Duties will include mechanical drafting, mechanism, machine design and mechanical laboratory. Salary \$1400 for ten months' service. Location Idaho. R-1187.

SALES ENGINEER; familiarity with lubricating refinery products and the jobbing trade. Duties of position are those of manager of sales department. Location New York City. R-1192.

SUPERINTENDENT; must have extensive experience in the manufacture of precision tools. Only men with this experience will be considered. Position is with concern employing over 500 men and having growing business. Location outside of New York. R-1195.

PUMP DESIGNER; experience in design of pumps of various character. Location Illinois. R-1198.

ERECTING ENGINEER; experience in installation and operation of oil-refinery apparatus. Practical man with extensive experience in, and knowledge of, machines and how to operate them. Location New York City. R-1199.

PROFESSOR OF ELECTRICAL ENGINEERING; four or five years' experience. Some knowledge of steam-turbine testing and experience in teaching direct-current subjects including laboratory, electric railways, electrical design and mechanical laboratory. Teaching will not exceed 24 actual hours per week. \$680 in Mexican money is allowed for transportation each way, which is more than ample for one, and will almost pay transportation for two in the case of a married man; residence furnished married man; bachelor given quarters in bachelors' mess. Three-year contract, renewable at end of period, if mutually satisfactory. Salary, Mex. \$4000 to Mex. \$4700 per year, equivalent in U. S. money to \$3600 to \$4200 per year. Living expenses should be considerably less than above figures. Location China. R-1202.

INSTRUCTOR OR ASSISTANT PROFESSOR; experience in thermodynamics and steam and gas laboratory work. Position is in steam and gas department of large educational institution. Salary \$1600 to \$2200 per year. Location Middle West. R-1205.

MECHANICAL ENGINEER; experience in manufacture of ammonia. Location New York City. R-1209.

DESIGNING ENGINEER; best possible experience in cane-sugar-mill design, both theoretical and practical. Location New York City. R-1210.

ENGINEERING DESIGNER; experience in oil refinery or similar construction work. Openings for several men. Location Philadelphia, Pa. R-1211.

POWER-PLANT DESIGNER; experience and training in electric-generating power plants. Must be able to draft complete layouts of both mechanical and electrical details of such plants. Young graduate engineer desired. Send photograph with letter of application. Salary \$165 per month. Location in Tennessee. R-1212.

MACHINERY DESIGNER; technical graduate experienced in designing and detailing machinery. Must be good, rapid, accurate mechanical draftsman. Send photograph with letter of application. Salary \$165 per month. Location Tennessee. R-1213.

ACCOUNTANT; training as an accountant and experience in large manufacturing concern. Must be capable of taking charge of factory accounting in broad and cooperative spirit with factory manager. Position is with concern employing about 700 men. Location outside of New York. R-1221.

DESIGNING ENGINEER; extensive experience in design of steam-power plants. Must be man of highest grade. At least 32 years of age and must have had actual field experience. Duties of position will be to design complete steam-power plants. Location Boston, Mass. R-1222.

HYDRAULIC DRAFTSMAN; experience in design of hydro-electric stations. Location New York City. R-1223.

SALESMAN; experience in selling belting. Man conversant with conveyor requirements especially desired. Location is in Pennsylvania. R-1224.

ASSOCIATE EDITOR; must be mechanical engineer with experience in equipment, and processes of sugar industry. Must have some experience in writing either for magazines or books, and must know Spanish thoroughly. Location Eastern City. R-1231.

STRUCTURAL DRAFTSMAN; must be technical graduate and know how to analyze forces in concrete and steel structures; how to design such structures and how to take care of those forces. Must also realize how such designs should be modified to suit construction conditions. Should have initiative and judgment. Position is with an organization required to design all types of structures entering into the development of hydroelectric power and its transmission. Location Massachusetts. R-545.

MECHANICAL DRAFTSMAN; experience in design of sugar machinery. Position is for 6 months. Living furnished at cost in company clubhouse. Salary \$225 per month plus transportation. Location is in Porto Rico. R-1235.

TOOL DRAFTSMAN; experience in designing jigs, fixtures and special machinery. Location New Jersey. R-1237.

FIRE INSURANCE INSPECTOR; extensive experience in fire-insurance inspection work. Man 25 to 30 years of age with five to six years' experience desired. Must have good personality. Location Connecticut. R-1241.

DESIGNER AND ESTIMATOR; drafting-room and shop experience, especially on machine and foundry operations, mostly grinding. Duties consist of work in drafting room on design and estimating, and in plant, on plant layout and investigation of operations. Company expects to use electric furnaces in near future for steel production. Middle-Western men preferred. Location Chicago, Illinois. R-1242.

COMBUSTION AND TEST ENGINEER; experience in combustion and test work in connection with operation of large and small power plants. Location is in St. Louis, Missouri. R-1244.

DRAFTSMAN; first class draftsman with experience on heavy machine-tool work. Location Philadelphia. R-1245.

RECENT GRADUATE; recent college graduate, technical man preferred. Must have personality and excellent address. No previous experience desired. Position is as novice with large insurance company. Location Connecticut. R-1246.

DESIGNER; general machinery-designing experience. Location Pittsburgh, Pa. R-1247.

SALES ENGINEER; must be technical graduate with good practical experience. Conversant with up-to-date shop practice, and familiar with tool set up, time-study work and production. Location Middle West. R-1248.

MECHANICAL ENGINEER; experience on general layout of buildings and machinery; paper-mill experience desirable, but not necessary. Location Canada. R-1253.

MECHANICAL DRAFTSMAN; collegiate or technical training; must have at least two years' shop experience, and must understand plant-layout work. Location New Jersey. R-1255.

INSTRUCTOR FOR ROUTINE TESTING; successful teaching experience for position in newly-equipped road-materials laboratory. Location Idaho. R-1259.

HEATING AND VENTILATING ENGINEERING DRAFTSMAN; duties consist of designing and inspecting of heating and ventilating work, plumbing, machine work, temperature control and electric wiring in connection with school-house building construction. Location Minnesota. R-1260.

GRADUATE ENGINEER; graduate electrical or mechanical engineer with energy and initiative to assist in organizing and conducting cooperative courses at University. Salary \$2000 per year. Location Alabama. R-1262.

DRAFTSMAN; preferably man experienced in conveying machinery, otherwise in structural steel; machine-designing experience essential, however. Location Missouri. R-1263.

ASSISTANT POWER-PLANT SUPERINTENDENT capable of superintending erection of power plant of 8000 b.h.p. and the operation of a.c. and d.c. generators and compressors for refrigeration plant of large capacity. Company expects to install, in near future, new high-pressure plant with automatic underfeed stokers. Location New York State. R-1264.

ENGINEER OF WAY AND STRUCTURES; To have charge of construction and maintenance of track, pavements and incidental structures and general charge of maintenance of buildings in electric street-railway organization. Company has about 100 miles of single track, nearly all within city of Havana, built on concrete foundation in streets paved with granite blocks, remainder being suburban line of ordinary steam-railroad construction. Must be able to speak Spanish fluently. Give full information in first letter. Salary \$350 per month, but higher salary would be paid to man really worth it. Location Havana, Cuba. R-1266.

RESIDENT AND SALES ENGINEER; Must have experience in re-enforced concrete, design and construction. Must be well up on the theory of design and must be thoroughly practical and have good idea of job organization. Must be accurate, thorough, and have good commercial as well as engineering sense, since he has to be head of sales as well as engineering end of business. Absolutely essential that applicant be single and disposed to stick on the job. Must be a man of some social experience and possess personality calculated to make him desirable member of foreign community and, must be absolutely honest and reliable. Location Singapore. R-1267.

STRUCTURAL ENGINEER; Structural engineer capable of initiating and carrying to completion independent designs for miscellaneous steel work, but more particularly for mill-building construction. Salary \$200 per month with travelling expenses to and from Porto Rico. Location Porto Rico. R-1268.

ENGINEER EXECUTIVE; Preferably electrical engineer of high-class executive and organizing ability; diplomatic and convincing in conversation and correspondence; aggressive but not quarrelsome, to act as assistant head of department of 1500 employees distributed throughout the United States. Applicant must be American born, preferably not over 35. Salary \$3000. Location is in New York City. R-1270.

WORKS MANAGER to superintend plants manufacturing tractors, steam engines, and grain separators; must have responsible position in similar lines and must be at least 45 years of age. Location is in Indiana. R-1273.

DESIGNER; Must be first-class tool and jig designer, for automobile work. Discharged service men preferred. Location Canada. R-1274.

SERVICE MANAGER; Large scale company, wishes to employ man to manage its Service Department at its main office and factory at Toledo, Ohio, and to supervise its service operations throughout the entire country. Man must be a mechanical engineer with technical training, shop experience and sales or service experience in the field. Two-thirds or three-fourths of his time will be spent at main office, balance of time traveling. Good opportunity for right man. He must not be younger than 30 nor older than 45 years. Must be a proven success, with good ability, best of references and be able to furnish Fidelity Bond. Applications will be guarded as strictly confidential. Location Middle West. R-1276.

SALES ENGINEER; Must have sales experience; metallurgical, mechanical and electrical engineer desired, must also be willing to travel. Salary and bonus. Location Middle West. R-1279.

INSTRUCTOR IN FOUNDRY WORK; Teacher to instruct in foundry work. Location New York City. R-1280.

DRAFTSMAN; Man must be good mathematician, college graduate, with about two years' experience in designing gears. Salary \$25 to \$30 per week. Location is in New Jersey. R-1281.

MECHANICAL ENGINEER; Young man about 30 years of age who has made a specialty in oiling, or one particularly fitted to organize and supervise a system for keeping all machinery properly oiled and seeing to it that this is done. Salary \$40 per week to start. Location Brooklyn, N. Y. R-1284.

DESIGNER, DRAFTSMAN AND ERECTOR; Experimental and service men familiar with semi-Diesel engines. Will consider application from men with experience on Diesel engine work. Only men with this experience need apply for position. Location Massachusetts. R-1285.

VENTILATING ENGINEER; Technical graduate well-grounded in the theory of ventilating engineering. Location is in New York. R-1292.

INSTRUCTOR IN PHYSICS IN M. E. COURSE; Must be recent graduate of college of recognized standing. Location New Jersey. R-1293.

DRAFTSMAN; Experienced, for large machine-tool work. Location is in New Jersey. R-1294.

MACHINE SHOP EXECUTIVE; Must be capable of directing development and production. Must have experience, training and energy to be real doer. Position carries authority as chief engineer, manager and supervisor of production on small brass parts. Requirements are to triple output inside of twelve months. In writing state how your experience warrants your belief that you can handle this proposition. Location Detroit, Michigan. R-1295.

FOUNDRY EXECUTIVE; Must have actual experience in all branches of foundry work; must know how to rig and operate power-machine production both by direction and demonstration, and have energy to do big things. Position carries authority and re-

quires ability to handle plant management. In writing state experience that warrants your consideration for this position. Location Detroit, Michigan. R-1296.

MASTER MECHANIC; Master mechanic to supervise development and equipment problems at point between experiment and operation, in shop engaged in production of small brass parts. Location Detroit, Michigan. R-1297.

INDUSTRIAL ENGINEER; Man with experience in production office of plant operated under scientific management. Location Hoboken, N. J. R-1299.

FOUNDRY SUPERINTENDENT; Manufacturing company planning erection of large grey-iron foundry wants high-grade man as superintendent to follow construction and later assume charge. Must be good executive and organizer on production basis. Give full particulars regarding self, training and experience. Location Middle West. R-1300.

PULP AND PAPER-MILL DRAFTSMAN; Pulp and paper-mill experience desired, but this is not absolutely essential; will consider man with varied construction experience for this work. Location Ohio. R-1301.

MANAGER FOR ILLUMINATING-GAS PLANT; Must have had illuminating-gas plant experience. Openings in North Carolina and Texas. R-1302.

INDUSTRIAL ENGINEER about 28 years of age, preferably mechanical education; must have a few years' experience as machinist and moulder; must be thorough mechanic; must understand modern tools and must have tact in handling men. Some inventive ability desirable. Job is to revamp old shop and foundry and reduce manufacturing costs; will have entire charge of both. Line is heavy machinery in small lots. Location New York State. R-1310.

MECHANICAL ENGINEER to take charge of planning machinery layout including routing and handling of material in process in both new and old factory manufacturing stamped-metal hollow ware. Work involves rearrangement and laying out of punch and draw-press department, tool rooms, machine shops, fitting, buffing, polishing, dipping, finishing, packing and shipping departments, the driving of machinery and the handling of goods. Location Pittsburgh. R-1311.

ASSISTANT PROFESSOR. Should be graduate of first-class technical school or possibly very high-grade trade school; should have experience in teaching and managing courses; must have practical experience and be especially strong in general automobile practice. This position is one of the most important in engineering school of the institute. The holder will be in charge of up-to-date automobile shop with one or two men under him, and will be directly responsible to the Dean of Engineering. The general policy of instruction etc. has been carefully worked out, so he will be expected to fit in with the system and to develop and improve it further. He should enjoy detailed work and above all be systematic. Location New Mexico. Salary \$1800 for 9 months' service. R-1315.

ASSISTANT OR ASSOCIATE PROFESSOR for industrial engineering and management work, must be capable of taking charge of lecture and design work of strong organized course. Must be a technical graduate with good practical experience. Photograph and references desired. Personal interview to be arranged for, before appointment. Location Indiana. R-1318.

INSTRUCTOR IN MECHANICAL ENGINEERING to assist in laboratory; must have specialized in internal-combustion engines, and be capable of taking charge of small group of laboratory men. Photograph and references desired. Personal interview to be arranged for, before appointment. Location is in Indiana. R-1319.

ASSISTANT IN MECHANICAL-ENGINEERING LABORATORY; To assist in engineering laboratories; may be recent graduate, who has ability and promise as an instructor. Photograph and references desired. Personal inter-

view to be arranged for, before appointment. Location Indiana. R-1320.

DRAFTSMAN for layout of plumbing and water mains. Location Delaware. R-1321.

ENGINEER CORRESPONDENT to correspond with an English publishing concern in such subjects as works' management, organization, etc., and to keep it supplied with up-to-date engineering data. Correspondent will be located in America. Location London, England. R-1325.

DRAFTSMAN; For general design and miscellaneous work, pertaining to mining and milling operations; one familiar with crushing machinery, conveyors, elevators, and power-plant machinery preferred. Location New Jersey. Salary \$25 to \$35 per week to start. R-1326.

OIL SALES ENGINEER, who is aggressive, who is thorough fuel-oil man, and who can intelligently handle engineering involved in conversion of plants of various character to oil-fired plants, desired. Location New York City. R-1327.

BUSINESS GETTER; Must have executive, sales and business ability for connection with large plant manufacturing medium-weight machines from 1000 to 4000 lbs. Plant has large and well-equipped tool room and is now manufacturing special-testing machinery. Duties of position would be to take charge of getting business and keeping surplus capacity of plant busy. This firm desires man who will handle the proposition on commission basis, although, a man desiring salary would not be rejected on that account. Location Philadelphia, Pa. R-1330.

ERECTING AND OPERATING ENGINEER to take charge of erection of gas-producer equipment and to teach customers how to operate such equipment. Position open for one or two men. Location Ohio. Salary \$250 per month. R-1339.

SALES ENGINEER to sell gas-producer equipment; must have considerable experience in steel work. Territories now open: Mt. Vernon, Ohio, Chicago, Pittsburgh and New York. Salary \$400 to \$500 per month. R-1340.

ENGINEER for office position, to do general engineering along lines of gas-producer equipment. Location Ohio. R-1342.

FURNACE BUILDER with extensive experience. Position is with well-established firm, branching into new fields. Location Ohio. R-1343.

GENERAL CONSTRUCTION DRAFTSMAN; Mechanical engineer with five or six years' equipment and constructive experience for industrial building work. Location New York City. R-1349.

PLANNING ENGINEER; Graduate mechanical engineer, with at least five years' plant-planning experience. M. I. T. graduate preferred. This position is third in authority in a wood-working plant which employs from 600 to 700 men. Splendid opportunity for right man. Location New York City. Salary \$3000 to \$4000 per year. R-1351.

COST AND PLANNING ENGINEER with several years' experience in sugar machinery. Location Pennsylvania. R-1352.

CHIEF DRAFTSMAN; Consulting Engineer's office, specializing in interior mechanical and electrical equipment of buildings, desires chief draftsman to handle entire drafting room employing approximately twelve to fifteen men. Applicant to be technically trained and to have experience in various branches of heating and ventilating, plumbing, electric wiring, power and heating plants, refrigeration, etc., and to have ability as production manager. Location Baltimore. R-1354.

CONSTRUCTION ENGINEER capable of installing power-house equipment. Man with hydro-electric experience preferred, but this is not absolutely essential. Location Potsdam, New York. R-1355.

INSTRUCTOR IN MACHINE DESIGN; Must be technical graduate. Location New Jersey. R-1356.

RECENT MECHANICAL ENGINEERING GRADUATE for work along experimental and research lines. Location Connecticut. R-1357.

CHIEF INSPECTOR required by firm manufacturing small interchangeable parts. Must have previous experience in organizing and maintaining inspection organization. Must have experience in manufacturing limits, good personality and be capable of handling men. Prefer man between the ages of 28 and 38. Exceptional opportunity for live wire in progressive concern. Only those need apply who have references showing previous experience of successful operation of inspection departments as Chief Inspector. Location Michigan. R-1364.

INSTRUCTOR IN MECHANICAL ENGINEERING; Must have teaching and practical experience in steam engineering and machine design. Location Pacific Coast. Salary \$1800 to \$2000. R-1367.

CREATIVE MACHINE DESIGNER with mechanical ingenuity and practical intuition, who can solve mechanical problems and produce operative mechanisms. The right man will be provided with as many draftsmen and model makers as he can keep busy. Plant production or efficiency engineers will not do; the man must have had not less than three years' actual experience in the development of complicated machinery, such as textile, automatic forming, wrapping etc. Applications should be very specific as to experience and in addition should state age and salary expected. Location New York City. R-1368.

SALESMAN with extensive sales experience to sell valves and power-plant equipment; position requires some travelling. Location New York City. R-1369.

INSTRUCTOR; Young college graduate with possibly one year or more experience in practical work and teaching. Location Brooklyn. Salary \$1200 to \$1500. R-1374.

DRAFTSMEN AND DESIGNERS with two or three years' practical experience designing jigs and fixtures for high-class interchangeable parts. Location Hartford, Conn. R-1375.

RESIDENT CIVIL ENGINEER with experience in supervising construction of hydro-electric power plants including dams, power stations and transmission lines. Previous experience on similar work essential. Location Eastern Canada. R-1377.

CHIEF ENGINEER to take charge of plant operating 24 hours daily, including Sunday. This man to be in charge of men in plant consisting of two 300-hp. boilers with automatic stokers and a 500 kw. De Laval steam turbine direct-current generator. Turbine operates on superheated steam, running condensing with surface condenser and spray pond. Power is used for electrolytic process and plant runs with solid unvarying load. Location New Jersey. R-1378.

COMBUSTION ENGINEER. Young man, four or five years out of college, with experience on Diesel engines. Location New York City. R-1379.

DESIGNER. Mechanical engineer with extensive experience in designing of locomotive cranes. Location New York City. R-1383.

PRODUCTION ENGINEER OR SUPERINTENDENT to act as assistant to superintendent taking charge of planning department and production in growing manufacturing concern with machine shop, blacksmith shop and foundry. Energetic young man with some previous experience and ability to handle men desired. Location Michigan. R-1386.

MECHANICAL DRAFTSMEN. Two draftsmen experienced in hoisting machinery and motor-truck designing. Steady work and opportunity for advancement. Location Michigan. R-1387.

ASSISTANT SUPERINTENDENT with at least two years' plant experience. Location New Jersey. R-1388.

EFFICIENCY PLANT ENGINEER for public utility work. Must have personality, tact, and be able to make investigations and tests. R-1389.

DRAFTSMAN. Must have heating and ventilating and power-plant piping experience; must be able to design piping for boilers and engines on ships. Location New York City. R-1392.

MECHANICAL ENGINEER. Technical graduate to assist in compilation of engineering hand books and to write advertisements, circulars, etc. Position offers unusual opportunities for promotion and earnings. Location New York City. R-1393.

MEN AVAILABLE

Only members of the Society are listed in the published notices of this section. Copy for notices should be on hand by the 12th of the month, and the form of notice should be such that the initial words indicate the classification. Notices are not repeated in consecutive issues.

MECHANICAL ENGINEER. Technical graduate, age 27, with four years' varied manufacturing experience, desires to get in touch with concerns contemplating an extension of foreign trades in Armenia or Turkey. A-4045.

MECHANICAL ENGINEER. Graduate of M. I. T. Expert on design and experimental work. Held responsible experimental and executive position for 17 months during war as Captain Ordnance Department, U. S. A. Devised and perfected several useful inventions for the service. Qualified as assistant to executive on engineering problems. Now employed at \$3000 per year, but desire change to above line. Qualified to handle men. Age 29, married. A-3981.

INDUSTRIAL ENGINEER. Columbia University graduate in mechanical engineering, with four years' experience as production engineer and assistant superintendent of machine shop, forge and foundry, desires position in similar capacity or as assistant to an executive. A-3976.

POWER-PLANT ENGINEER, technical graduate, age 30. Eight years' experience principally in power-plant design and operation. At present in charge of large steam and gas power, pumping and blowing plant in large steel mill. Salary \$5000. A-4141.

MECHANICAL ENGINEER ON INDUSTRIAL WORK. Technical graduate, American, age 36; married. With broad technical experience, including practical shop experience, and covering design of boilers, tanks, structural steel, factory buildings, layouts, installation of machinery and general industrial plant construction. Desires position with large company having number of manufacturing plants, as mechanical engineer in charge of maintenance and extension of plants and construction of new plants. Only high-grade connection requiring energy, initiative and tact will be considered. A-2180.

ENGINEER EXECUTIVE OR SALES ENGINEER desires position where executive ability, engineering and business experience are required. Age 32 years; technical education; several years varied engineering and sales experience in this country and abroad; speaks several foreign languages; also experienced on railroad equipment, steel construction, and plant maintenance as plant or works engineer; considered very capable organizer and executive; formerly Captain U. S. A.; can present best references; location, immaterial. A-3063.

MECHANICAL AND ELECTRICAL ENGINEER, visiting Europe in October, and returning in January or February, would like to get in touch with one or two concerns who could use part of his time to advantage in representing them, in either business or confidential matters; at present holding influential position with large manufacturing concern whose business will only take small part of his time; is of smart appearance, good address, and can produce best references. A-1706.

SALES MANAGER AND ENGINEER. Degree of M. E. Twenty years of active experience in power-plant machinery and engineering practice, with clean record. Now employed in the West, but desires location East of Buffalo. Present salary, \$7,500. Cannot consider less than \$8000. A-4142.

CONFIDENTIAL AGENT. Open for part or full-time engagement. Investigations of methods, equipment or personnel carried out with secrecy and despatch. Highest references. A-3988.

MECHANICAL ENGINEER, age 26 years, M. E. degree, would like to connect with large organization as assistant works engineer; three years' experience in general maintenance in large manufacturing plant; also experience in steam and Diesel power-plant operation and general machinery design. At present employed. Salary \$2500. A-4143.

CHIEF DRAFTSMAN, technical man, age 29, seven years' experience on automobile and airplane engineering, desires connection with progressive company. Good handler of men and can guarantee results. Only permanent position with good future will be considered. A-4027.

MEMBER of United States Government Trade Commission to Europe and Army officer desires executive appointment. Engineering, manufacturing and sales experience in high-class electric, steam and hydraulic machinery lines. A-1457.

SALES ENGINEER, graduate mechanical engineer with five years' experience in marine, power-plant and chemical engineering practice, wishes to represent manufacturer in Philadelphia district. Has had two years' experience as purchasing engineer of marine equipment. A-4144.

DESIGNING ENGINEER, age 27, married, technical education, eight years of electrical and mechanical machine design of small and medium sized electro-mechanical apparatus, wishes position with reliable and growing concern. New York vicinity preferred. A-4029.

MANAGER OR ASSISTANT SUPERINTENDENT wishes position where initiative and ability to get results are wanted. Ten years' practical experience as superintendent and chief draftsman in States and Canada. Age 31; married; willing to locate anywhere in Canada or United States. Thoroughly familiar with modern practices in machine shop, pattern work and foundry. Very successful in handling men. Minimum salary, \$3000. A-3994.

INDUSTRIAL ENGINEER. Graduate mechanical engineer with eight years' practical manufacturing and business experience desires connection with progressive industrial enterprise. Familiar with up-to-date manufacturing methods, with rate setting, time study, plant maintenance, and general shop management, covering machine shop, pattern shop, structural and steel shop, and foundries, both gray iron and malleable. Two years' experience in executive capacity in the War Department, in charge of accounting and sales function, covering all salvage. Would prefer position in executive capacity as manager or assistant to president or similar official. Interview if desired. A-3998.

MECHANICAL ENGINEER; age 28; experienced in design and testing of mechanical and electrical apparatus and in organization work, desires position with industrial concern. Capable of taking charge of development of new apparatus or acting as assistant to chief engineer and possessed of ingenuity and imagination. Minimum salary \$2200. A-4076.

EXECUTIVE ENGINEER. Eighteen years' experience, design, construction, administration and management, operation and maintenance. Conservancy engineering; municipal and industrial water supplies and sewerage systems; highways; valuations, statistical problems; municipal and industrial water-waste and power-waste investigations; drainage; land development; labor, personnel, and employment problems. Major of Engineers in U. S. Army. Desires connection with strong organization where experience and initiative count. Available on short notice. A-232.

MECHANICAL ENGINEER, technically educated, having some knowledge of French, German and Spanish, has had twenty years' experience in machine-shop, drafting-room, power-plant operation, building inspector, sales engineer and specialty engineering lines.

Has held responsible positions as assistant chief engineer, superintendent of refrigeration, superintendent of construction, chief engineer, master mechanic, sales engineer and sales manager. Have lately been released from Army service and desire position in line of above experience. A-2304.

ENGINEER OR ASSISTANT MANAGER of industrial plant, age 44; married; technical graduate; six months of reinforced concrete work; six years assistant engineer in charge of office on tunnel work and inspector of tunnel construction; eight years engineer and chief draftsman as production; manufacturing civil and mechanical engineer. Now engineer in mechanical development work in glass industry. A-2078.

WORKS MECHANICAL ENGINEER, now employed in modern manufacturing plant, desires change. Has extensive experience along chemical lines. A-4145.

ASSISTANT TO SUPERINTENDENT or similar position. Discharged army officer, age 31, pleasing personality, tactful and practical. Thirteen years' experience on design and manufacture of various lines of press tools, jigs, fixtures and gages for quantity production and inspection on small parts; also good knowledge of manufacturing methods in general; six years in charge of important work in positions similar to the one desired. Salary \$3000. A-2408.

MECHANICAL ENGINEER AND DESIGNER, eighteen years' experience in railway motive power and rolling-stock design, testing materials, electrical machinery, and as chief draftsman for foundry and machine company. Past ten years with large steel plant as executive and designing engineer on mechanical, hydraulic and special structural work. Thoroughly familiar with modern shop practice, good organizer and executive. Can handle men to best advantage. Desires position of responsibility on either operating or engineering end. Age 37; married. A-3058.

ENGINEER EXECUTIVE, graduate of both university and highest class technical school as mechanical engineer. Seven years' experience with large concern, building and operating two plants. Experienced principally in light metal-working but readily adaptable to any business. Age 32. Special opportunity for advancement desired. A-4220.

MECHANICAL ENGINEER, technical graduate, age 26, served as engineering officer in U. S. Navy during war. Four years' varied engineering experience, both as draftsman and engineer in connection with power-plant equipment, ball-bearing industry and chemical plants. Desires position either as assistant engineer or in sales engineering. Salary, \$2600. A-435.

MECHANICAL ENGINEER. University graduate. Three years' experience on locomotive and car work as special apprentice in railroad shops; one year on locomotive efficiency and tonnage rating tests. Recently released as Lieutenant of Engineers, U. S. A. Desires position with opportunities for advancement. Location in Middle West preferred. A-4223.

WORKS MANAGER. Executive with broad experience in machine building and interchangeable manufacturing desires change. Is well posted in modern organization as well as mechanical methods and has ability to handle men to an unusual degree. Has been with present employers for seven years. A-4222.

POWER-SYSTEM EXECUTIVE; engineering graduate; ten years' experience in construction and operation of high-voltage high-power generating stations; transmission lines, substations and distribution systems; at present employed at salary above \$4,500, but desires opportunity for greater service and responsibility in line of operation, construction or general design. A-4224.

HEAT TREATER AND CHEMIST with eighteen years' experience in foundry and steel-work analysis and heat-treating of all sizes and grades of carbon and alloy steels, both mill and forge products, to meet marine, railway, special and army and navy requirements, open

for engagement. Eastern location desired. A-4221.

PRODUCTION ENGINEER, technical graduate, age 29. Five years' experience manufacturing electrical supplies. Thoroughly familiar with planning, scheduling and routing work, time and motion study, rate setting and wage payment systems. Experienced as foreman polishing and grinding department. Discharged from the army; available immediately. Location preferred—Middle West. A-2008.

PROFESSOR OF MECHANICAL ENGINEERING OR OF INDUSTRIAL EDUCATION. Graduate in mechanical and electrical engineering with B. S. and M. S. degrees. Eight years' experience teaching a variety of engineering and industrial subjects in two large state universities and in an industrial school. Practical engineering experience covering number of years in design, construction and operation. Age 33; married. A-4225.

MECHANICAL AND ELECTRICAL ENGINEER, army officer, age 38, two years' civil engineering course and six years mechanical and electrical university course; graduated in 1907. Engineering experience covering 14 years, includes important branches of the construction of industrial plants, locks and dams, the Hog Island Ship Yard, a powder plant, a rifle plant and an armor-plate plant, consisting of the installation of hydraulic, steam, air and electrical machinery. Thoroughly practical with executive ability. Desires to make change, no objection to foreign service if salary is commensurate with position and location. Minimum in the United States, \$4000. Willing to enter into partnership with another engineer on equal basis. At present employed, but can arrange to make change on short notice. A-4226.

TURBINE DRAFTSMAN, six years' experience in design of small steam turbines. Married; age 27; desires position with small concern in either sales or engineering department; would consider position where his services could be used outside of drafting room. A-4227.

EXECUTIVE. Captain, Inspection Division Ordnance Department (discharged), four years' shop experience, ten years' design and construction of industrial plants, desires position where knowledge of shop practice will be of value. A-1345.

MECHANICAL ENGINEER, graduate of University of Michigan; age 36 years; open for position requiring executive ability, initiative, and tact acquired from thirteen years' general engineering experience in construction, sales, heating, maintenance, test and experimental work. At present employed in East, but prefer to locate in or near Detroit. A-4229.

MECHANICAL ENGINEER; qualified for chief draftsman, assistant to mechanical engineer, works manager or similar position, desires engagement where experience, education, and ability will be of service; age 33; married; university graduate; eleven years' experience in machine design, mill engineering, plant layout, installation of machinery, etc. Experience covers actual shop practice and supervision in field as well as extensive drawing room work. A-4228.

ASSISTANT TO CHIEF ENGINEER, has had sixteen years' experience in design and manufacture of automatic machinery and light mechanisms; in charge of test and experimental work. Thoroughly familiar with best practice in economical manufacture and labor-saving methods; broad knowledge of plant layout; very successful on development work. Pleasing personality and clean record as an executive. Recently completed important production and experimental work for the Ordnance Department. Available immediately. A-1573.

WORKS MANAGER with twenty years' experience in manufacturing automobiles, typewriters, firearms and interchangeable parts, including one and one-half years' building of heavy artillery; thorough organizer; familiar with latest practices of plant management and modern efficiency methods; desires connection with large progressive concern. A-331.

MECHANICAL ENGINEER, age 36, seeks connection with growing and progressive concern as works manager or in similar capacity. Sixteen years' experience in design of locomotive specialties, valves, etc. Has had charge of shop and brass foundry, purchasing of materials, sales correspondence, etc. Registered patent attorney. Preferred location New York or vicinity. Salary \$4000. A-4230.

PLANT MANAGER OR GENERAL SUPERINTENDENT, broad experience with large organizations. Active and progressive executive with successful record in handling labor. Practical knowledge of up-to-date manufacturing in all its branches. Experienced in manufacture and design of special machine tools, electrical machinery, motors, pumps, power-house equipment and iron and brass parts in large quantities. American, age 41. A-4232.

MECHANICAL ENGINEER experienced in design, layout and construction of industrial plants. Last year and half in responsible charge of construction. Also capable of designing special machinery. Minimum salary \$3000. A-2992.

KEEN, AGGRESSIVE YOUNG EXECUTIVE, university credit in mechanical and electrical engineering; ten years' practical experience shop organization, designer of machinery, and plant layout, desires to become associated with manager of large manufacturing concern. Eastern States. A-4233.

ASSISTANT TO GENERAL MANAGER OR PLANNING ENGINEER. At present employed as head of cost and production departments of well-known machinery company. Seven years' experience covering wide range of manufacturing in various executive positions; lowest salary to start \$5000 per year. A-3243.

FUEL AND COMBUSTION ENGINEER. Mechanical graduate, with ten years' experience in fuel engineering, as testing engineer for large coal company, wishes position with engineering firm or industrial concern whose economy in use of fuel is important factor. Could handle fuel purchasing to great advantage. A-4234.

MECHANICAL ENGINEER OR SUPERINTENDENT, technical graduate, with 15 years' practical experience in estimating and designing special apparatus of sheet and plate steel, tank work, low-pressure and high-pressure boilers, coal pulverizers and chemical apparatus. Good executive, successful experience in handling help and producing results. At present in charge of engineering department of old established concern, where field is not broad enough for experience and ability. Minimum salary \$4000. A-4231.

SALES ENGINEER desires the New York agency for an engineering product selling to the amount of hundreds or thousands of dollars per sale. Power equipment preferred. Would welcome a hard missionary fight for a worthy article. Salary and commission. A-4235.

TECHNICAL GRADUATE, age 26, married, desires position as assistant to works manager or mechanical engineer or as chief draftsman. Four years' experience in construction, mechanical, aeronautical engineering, and machine and tool designing. Well versed on high-speed internal-combustion engines. Served two years with the rank of Lieutenant (J. G.) in the U. S. N. Air Service as a pilot and experimental aeronautical engineer. A-4237.

MECHANICAL ENGINEER, graduate with over 20 years' experience, including five years in shops, desires position as chief engineer or consultant; can take charge of or advise on design and installation of power plants, pumping stations and distributing systems for water; inspect and test materials for construction, boilers, engines, turbines, pumps, motors, generators, etc.; has had valuable experience in fuel economy and smokeless combustion. Location New York vicinity preferred. A-4236.

ASSISTANT SUPERINTENDENT OR CHIEF INSPECTOR; age 33 years, technical education; 12 years' practical experience in design, manufacture and assembly of interchangeable parts on mass production, as foreman,

planner, chief inspector and assistant to superintendent; energetic, resourceful, efficient organizer; can furnish best of references; desires position in or near Philadelphia. A-3266.

PLANT ENGINEER OR MASTER MECHANIC. Technical graduate, excellent executive, successful in handling men, tactful and diplomatic; 17 years' experience in electrical and mechanical engineering, including installation and maintenance, power and industrial plant, heating and lighting layout; organization and production engineering. A-1496.

EXECUTIVE ELECTRICAL AND MECHANICAL ENGINEER, recently administrative officer of large government plant, with extensive experience in design and construction of steam and hydro-electric plants, special electrical and manufacturing equipment and the design of special electrical control systems, is open for engagement, 34 years of age; married. Salary \$3000 to \$5000, depending upon location. A-3196.

MECHANICAL AND CIVIL ENGINEER desires connection with industrial concern where his 18 years' experience in construction, operation and administration of cement, lime and chemical plants can be fully utilized. A-3019.

MARINE ENGINEERING EXECUTIVE AND SALES MANAGER; age 33; married; American; has had full machine-shop apprenticeship; former owner and manager of marine specialty and repair shop; ten years' active sea service, has chief's unlimited license; is familiar with recent marine-engineering devices and customs; good personality; excellent references. Minimum salary \$6000. A-4238.

SALES ENGINEER, technical graduate, with several years' experience in design, manufacture and operation of power-plant equipment, wishes position in sales or manufacturing work or an opportunity to develop into sales work. In return can offer an aggressive and initiative mind. A-4239.

SALES ENGINEER, age 26, technical education, three years' experience as draftsman on sheet-metal machinery, presses and dies; knowledge of mill equipment, conveyor and power transmission machinery, desires to connect with machine-tool concern in sales capacity. Prefer location in or near New York City. A-4240.

ENGINEER EXECUTIVE, with 14 years' industrial experience, including organization, management analysis work, production control, and design of automatic machines and labor-saving devices; now employed as assistant to the general manager of prominent mechanical industry; desires location where further advancement is possible. Cornell M. E. graduate; married; age 33. A-2158.

EXECUTIVE ENGINEER; technical education; recently discharged from army, desires position of executive nature. Several years' experience in mechanical engineering and business management, including plant construction and operation, design, manufacture and installation of equipment and sales management. A-3085.

FOREIGN REPRESENTATIVE, experienced sales engineer, American; 40 years; married, desires to represent one or more firms in the three Scandinavian countries and Finland. Possesses language qualifications and has had extensive experience in the auto-sprinkler business in charge of engineering and construction as well as of sales, would consider connection in this line of work. A-4251.

EASTERN SALES ENGINEER, with modern offices in Newark, N. J., business centre, wishes to connect with concern needing an aggressive and practical man with shop experience and knowledge of export trade; has traveled abroad, speaks French, Spanish, German, and Russian. A-3658.

MECHANICAL AND PRODUCTION ENGINEER, technical graduate; age 25; experience in production-engineering work and general shop work; past two years as 1st Lieutenant, Engineers, U. S. Army; desires position which has good opportunity for advancement, preferably along production-engineering lines. A-4252.

PRODUCTION AND COST ENGINEER; gradu-

ate, ten years' practical experience in metal-working industries specialized in planning, routing, time study and graphic analysis of shop vital statistics, desires executive position. Recently discharged from the service and can furnish excellent references; 31 years old, married; salary \$3600. A-1071.

SALES-ENGINEERING POSITION wanted by mechanical and electrical engineer; age 30, technical graduate; has good knowledge of shop practice, and experience upon all types and sizes of internal-combustion engines, pumps, compressors, motors, generators, gas plants, and small rural electric systems. A-3448.

MECHANICAL ENGINEER, officer U. S. Air Service, desires position that will eventually carry him into selling; has had seven years' general mechanical engineering experience in design and manufacture; executive ability and shop experience. Location no object. Married; minimum salary \$2100. A-4253.

SUPERINTENDENT OR PRODUCTION MANAGER; college graduate with 20 years' experience in shops and designing; practical experience in manufacturing and assembling interchangeable parts on mass production. Lo-

cation immaterial, can furnish best of references. Age 40, at present employed but desires change of position. A-2975.

INDUSTRIAL ENGINEER; 25 years' experience covering design, sales, purchase and executive work, both commercial and engineering, in connection with mining and smelting operations, desires position on the Pacific Coast. Age 45. Married. A-1492.

MECHANICAL ENGINEER of broad experience covering 25 years, now located on Pacific Coast, desires position of responsibility along the lines of public utilities; mines and smelters; power plants; economical handling of materials, or organization and system. A-4273.

HIGH-GRADE ORGANIZATION BUILDER; 15 years' experience as works manager and superintendent; a thorough mechanic, familiar with modern methods. Age 38. Location immaterial. A-2252.

GRADUATE MECHANICAL ENGINEER, age 36, married, ten years' experience in heating, ventilating and air conditioning for factories, office buildings, schools, munition plants, etc. At present employed but desires responsible posi-

tion in charge of work in above line. Salary \$4500 per year. A-4299.

DESIGNING ENGINEER DRAFTSMAN wishes to connect with firm in mechanical line of manufacturing, preferably steam or internal-combustion engines. Has had ten years' experience in mechanical, electrical and steam equipment designing and some installations. Location St. Louis or vicinity. Good references. A-4193.

MECHANICAL ENGINEER with seven years' experience in factory organization and management desires executive position. Has thorough knowledge of modern cost and production systems, and has demonstrated ability to install same. Until recently in war work. Prefers location New York, Philadelphia or Boston. A-4298.

TECHNICAL GRADUATE, 1918, B. S. degree in mechanical engineering, single, age 23, honorably discharged soldier; three years' practical shop experience; familiar with foundry practice. At present employed, but seeks change where opportunities for advancement are greater. New England or vicinity of New York City preferred. A-4300.

CANDIDATES FOR MEMBERSHIP

TO BE VOTED ON AFTER SEPT. 18

BELOW is a list of candidates who have filed applications since the date of the last issue of MECHANICAL ENGINEERING. These are arranged geographically. Applications for change of grading are also posted. The total number of applications received and listed below is 359.

The Membership Committee, and in turn the Council, urge the

members to scrutinize this list with care and advise the Secretary promptly of any objections to the candidates posted. All correspondence in this regard is strictly confidential. Unless objection is made to any of the candidates by Sept. 18, and provided satisfactory replies have been received from the required number of references, they will be balloted upon by the Council.

NEW APPLICATIONS

Alabama

HALE, FRED E., Chief Draftsman, Alabama Power Co., Birmingham
SPELLACY, JOHN F., Superintendent of Shops, T. C. I. & R. R. Co., Fairfield

California

BURTCHAELL, ARTHUR E., Consulting Engineer, Self, Mechanical Production, San Francisco
DRAKE, GEORGE F., Vice President & Manager, Drake Lock-Nut Co., San Francisco
ROBERTSON, ROBERT R., Technical Assistant, Bureau of Power & Light, Los Angeles

Colorado

SEARS, HAROLD T., Student Engineer, Great Western Sugar Co., Brighton

Connecticut

BENTON, LEICESTER F., Jr., Mill Engineer & Designer, American Thread Co., Willimantic
BERARD, SAMUEL J., Instructor, Sheffield Scientific School, New Haven
BRADSTREET, GEORGE F., Assistant Equipment Engineer, Remington Arms Union Metallic Cartridge Co., Inc., Bridgeport
CHANDLER, ROY W., Director Industrial Research Yale & Towne Manufacturing Co., Stamford
CONEYBEAR, JOHN F., Major, Ordnance Department, U. S. A., Engineering Manager, Bridgeport District Ordnance Office, Bridgeport
DAVIS, DAVID, Chief Draftsman, The Shoe Hardware Co., Watertown
DEXTER, A. MORTON, Fire Insurance Engineer, Factory Insurance Assn., Hartford
FINCH, CLARENCE M., Safety Engineer, Research Division, Bureau of Inspection and Accident Prevention, Aetna Life Insurance Co., Hartford
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PROMOTION FROM JUNIOR

Maryland

WILLIAMS, SILAS, Captain, Ordnance Depart-
ment, U. S. A., Aberdeen Proving Ground,
Aberdeen

Michigan

HIRSHFELD, CLARENCE F., Chief of Research
Department, The Detroit Edison Co., Detroit
KEELER, HUGH E., Instructor in Mechanical
Engineering, University of Michigan,
Ann Arbor

New Jersey

HAGEMANN, GEORGE E., Mechanical Engineer
& Draftsman, Warren Foundry & Machine
Co., Phillipsburg
RUTTER, JOHN A., Trenton (Reinstatement).

New York

PATTERSON, JAMES C., Sales Engineer, Foam-
ite Firefoam Co., New York

Ohio

MISCH, ARTHUR A., Mechanical Engineer,
McKinney Steel Co., Cleveland

Pennsylvania

BILLMYER, CARROLL D., Designer & Drafts-
man, Atlas Portland Cement Co.,
Northampton

Wisconsin

THORP, JOEL R., Mechanical Engineer, Clun
Manufacturing Co., Milwaukee

SUMMARY

New Applications	341
CHANGE OF GRADING:	
Promotion from Associate Member.....	9
Promotion from Junior.....	9
Total.....	359

SUMMARY SHOWING AVERAGE AGE AND
POSITIONS OF APPLICANTS ON BALLOT
CLOSING AUGUST 12, 1919

Average age of applicants:	
Members	40
Associates	37
Associate-Members	32
Juniors	25
Chemical Engineer	1
Chief Engineers.....	9
Asst. Chief Engineer.....	1
Construction Engineer.....	1
Consulting Engineers.....	2
Designers	5
Draftsman	4
Chief Draftsman.....	2
Efficiency Engineers.....	2
Executives (Pres., Vice-Pres., Secy., Treas., Mgrs.)	20
Industrial Engineers.....	2
Master Mechanic.....	2
Mechanical Engineers.....	21
Asst. Mechanical Engineers.....	3
Production Engineers.....	3
Professors	1
Asst. Professor.....	1
Research Engineers.....	2
Safety Engineers.....	2
Sales Engineers.....	3
Sales Managers.....	2
Steam Engineer.....	1
Superintendents	6
Asst. Superintendents.....	2
Supervisor	1
Works Manager.....	1
Miscellaneous	2

UNITED STATES GOVERNMENT SERVICE

Colonel	1
Captain	1
1st Lieutenant.....	1
Ensign	1